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ABSTRACT

Considering a behaviorist's viewpoint focusing on specifics regarding learning and knowledge, this document discusses the psychology of learning and how it provides the reading/language arts teacher with a basis for making sound decisions in lesson and unit construction. It provides two examples of objectives for pupil achievement pertaining to vocabulary development in reading; six examples of different cognitive levels of complexity for pupils to achieve; and three standards to appraise the explanatory writing. The document discusses the advantages and disadvantages of using behaviorally stated objectives in teaching. It outlines eight sequential steps in advocating the task analysis approach in planning for instruction and discusses advantages of this approach. Discussing the "Structure of Knowledge" in the curriculum, it gives examples of useful sentence patterns developed by linguists. It discusses and gives examples of deductive and inductive learning that occurs in everyday life; discusses Jean Piaget's Readiness for Learning study; outlines four stages of learning; and discusses and outlines four learning styles of pupils. (SC)

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The Psychology of Teaching Reading.

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THE PSYCHOLOGY OF TEACHING READING

Teachers need to be aware of a psychology of teaching in reading and the language Arts. There are numerous psychologies available which provide guidance tot he teacher in helping pupils learn. Behaviorism has its strong advocates in teaching and learning. So many educators and stated departments of education desire objectives to be stated preciseiy. Some advocate they be stated so precise that there is no leeway in determining what is to be taught. For example, the teacher could write as a behaviorally stated objective that pupils are to spell words correctly with 90% accuracy from unit ten in the basal spelling textbook.
After instruction, it can be measured by testing pupils if the behaviorally stated objective has been achieved.

Behaviorally stated objectives work better in some areas of the curriculum as compared to others. Note in the previous objective, it can be measured if a pupil has or has not ached the stated objective. If pupils are to write haiku poetry, the teacher can measure of consecutive lines have a 5-7-5 progression of syllables per line. But what about creativity? Creativity should be at the heart of writing poetry. Behaviorism as a psychology of learning has a difficult time measuring pupil creativity in writing poetry.

Behaviorists like specificity in talking about knowledge. If I would say the room temperature is pleasant, the behaviorist would not be satisfied with that statement since a numeral is wanted to state precisely what the room temperature is, such as eighty degrees. Or the behaviorist would not be satisfied with a person saying he/she has a fever and having a high temperature reading. The behaviorist would want to know what the exact temperature reading was, such as 102

degrees.

Thus in teaching, the teacher writes behaviorally stated objectives, in measurable terms, prior to instruction. The teacher may state to pupils what they are to learn before instruction takes place. This provides security to pupils in that they know what is be learned without guessing. A teaching strategy needs to be developed to provide for individual differences so that all are attentive and can attain what is written inside the measurably stated objective. By stating ahead of time prior to instruction what is to be learned, pupils perceive purpose or reasons for achieving. There are behaviorists who advocate which inexpensive prizes pupils may obtain if they achieve what the behaviorally stated objective describes. After instruction, the teacher tests pupils to see if the objective was achieved. Those achieving the objective may go on to the next sequential lesson. Those not being successful achievers may need a different teaching strategy so that objectives may be achieved.

The following are provided as examples of objectives for pupil achievement pertaining to vocabulary development in reading:

1. The pupil will orally present five definitions of the concept "animation," as it relates to stories in reading. Here, the teacher may measure if a pupils has/has not achieved this objective as a result of instruction.

2. The pupil will write a setting of a story containing at lest fifty words.

Behaviorally stated objectives should be written at different levels of complexity for pupils to achieve. The following are examples, starting with the lowest level of cognition or mental operations:

1. The pupil will give the names of eight parts of speech in the English language. This objective is on the recall or memorization level.

2. The pupil will explain in his/her own words consisting of at lest fifty words the meaning of what is meant by the concept plot in a story. This objective is written on the meaning or understanding level.

3. The pupil will write a poem using the elements that make up a tanka poem. Here, the pupil applies or uses what has been learned

previously.

4. The pupil will analyze an Editorial from a newspaper in terms of statements being factual versus opinions. Here, the pupil needs considerable background information to know if accounts in an editorial are factual or opinions.

5. The pupil will rewrite the Editorial, number four above, to indicate an explanatory account of a happening or an incident.

6. The pupil will indicate the value or worth of what was written in an explanatory approach, number five above. Here, the pupil is making a value judgment as to the affect of the writing upon the human population. This objective might even contain the number of words to be written by the learner.

Student teachers and cooperating teachers whom I supervised in the public schools have stated that lower cognitive levels of behaviorally stated objectives are easier to give pupils a pass or fail mark for achieving or not achieving. Certainly in objective number one above, all teachers would agree if a pupil can list in writing the eight parts of speech as a result of instruction.This is the lowest level of cognition and is a memory task. Objective number two is more difficult to assess in that answers will differ from pupil to pupil as to what a plot is in a story. To be sure, there will be some consensus or the objective is meaningless. Objective number three stresses pupils writing a tanka with a 5-7-5-7-7 progression per line, each indicating how many syllables are expected. The measuring of syllables per line, such as 5-7-5-7-7, is relatively easy for a teacher to do. However, to ascertain how much creativity there will be or is for the tanka makes for subjectivity in appraising progress. Objective number four is a complex objective to achieve. How complex it is for pupils to achieve this objective depends upon the difficulty of the reading materials. If there are many new words n the section or if the style of writing is unfamiliar to the child, the learners may experience problems in attempting to achieve objective number 4. In addition to comprehending what has been read, the pupil also needs to possess background information in terms of subject matter

in order to separate facts from opinions. There can be much subjectivity involved when one or more teachers evaluates pupil responses to objective number four. I will just briefly comment on numbers five and six.

Objective number five brings in much subjectivity for the teacher in knowing what is strictly an explanatory account of pupil writing when synthesizing information from objective number four. Objective number six certainly stress subjectivity in that the pupil is to explain the worth or value of the explanatory writing product. I would suggest here to draw up a set of standards to appraise the explanatory writing. These standards to be used for evaluation could include the following:

1. The content is based upon current societal thought as to what is relevant. This standard does indicate it takes knowledge to understand concerns of society. It will be difficult to emphasize here what is relevant in society.

2. The content is comprehensive in covering diverse facets of what the public considers to be relevant. Subjectivity is involved in that the breadth of content written about can be broader or more limited. A minimum number of words could be written into objective number six in terms of pupil responses.

3. another evaluator may be asked to appraise the pupils' written responses and work out an agreement with the original evaluator as to what is relevant and has adequate breadth of content.

The use of behaviorally stated objectives is quite popular on the state level of instruction. About three out of four states in the union require the use of behaviorally stated objectives for instructional purposes in elementary, middle, and senior high schools. Thus, there are many school systems in the United States that do use behaviorally stated objectives in the instructional arenas.

What have been the advantages in having used behaviorally stated objectives in teaching?

1. It has made educators more cognizant about having more precise objectives in teaching. Objectives can certainly be too broadly

stated whereby they have little or no meaning, such as "To develop the democratic citizen."
Perhaps, no one knows what pupils are to learn when viewing a vague objective such as this. Vague objectives provide no guidance to the teacher as to what is to be taught.

2. It has assisted educators in looking at objectives more thoroughly in terms of what is relevant. Why? High quality behaviorally stated objectives are time consuming to write and therefore, I believe, makes the writers conscious of the importance of what pupils are learning. If too many objectives need to be written, the chances are pupils are to learn isolated trivial facts. Good behaviorally stated objectives are clearly written and state vital subject matter that pupils are to learn.

3. The evaluation process is simplified in that either a person has/has not achieved, after instruction, what is written in the behaviorally stated objective. The teacher can b e relatively certain that objectives have been achieved if written in a precise manner.

There seemingly is an opposite and equal reaction to any trend in education. My personal objections are the following to behaviorally stated objectives:

1. They can make teaching to factual in subject matter stressed in that rote learning is emphasized. It is easiest to write behaviorally stated objectives that stress factual learnings for pupils.

2. We have noticed how difficult it is to write these kinds of objectives that stress higher levels of cognition. Living in society require individuals be able to think critically and creatively as well as engage in problem solving. It takes knowledgeable and superb writers to encourage inclusion of these higher cognitive domain objectives.

3. It is very difficult to write attitudinal objectives in measurable terms. How would one write even a few behaviorally stated objectives in the affective, attitudinal domain? Here is one example: The pupil will show interest in vocabulary development by volunteering each school

day to look up the meaning of one/two concepts. The concepts will be written up in a special notebook.

Behaviorists recommend a logical curriculum in that the teacher sequences the order of objectives for pupils to achieve. These objectives are arranged in ascending order of difficulty from the easier to those gradually more complex, harmonizing with a pupil's individual stage of development. Learners too may achieve the individual objectives in an optimal manner based on differences in achievement among learners.

The Psychology of Learning Using Task Analysis

Related to behaviorism, there are strong advocates of a task analysis approach in teaching. Robert Gagne' (1984) has been a strong advocate of the task analysis approach in planning for instruction. The eight sequential steps stress the following:

1. Signal learning. Classical conditioning is involved here in that pupils learn to respond to a stimulus that is neutral initially to a response.

The Russian physiologist in the early 1900s conditioned a dog to salivate with the sound of a bell only. Prior to this occurrence, Pavlov noticed that dogs salivate with the sight and smell of meat. The meat (unconditioned stimulus) is the stimulus and the response by the dog is to salivate (unconditioned response). Next in sequence, Pavlov sounded a bell (conditioned stimulus) before and with the meat and, of course, the dog salivated. Later, the bell was sounded only (the conditioned stimulus) and the dog still salivated. However, after a period of time, the dog no longer salivated with the bell's sound only. I have observed teachers using classical conditioning in the classroom, even without knowing about this theory of learning. For example, a teacher conditioned pupils to stop visiting and talking by turning off the lights in the classroom with no words used. The turning off of the lights (conditioned stimulus)
was followed by pupils indicating readiness for being attentive in the

classroom and hopefully for learning.

2. Stimulus-Response learning. This concept emphasizes operant conditioning. Thus, a teacher has an objective for pupils to achieve. a reward has been announced prior to instruction as to what a pupil can obtain if successful in goal attainment. If a pupil learns, what was stated prior to instruction as a reward, he/she receives the reward. The reward may be an inexpensive prize such as a few redhots. With a correct response from the pupil, Stimulus-response theory of learning emphasizes rewarding good and correct responses. The emphasis is upon the correct response with its accompanying reward, according to operant conditioning.

3. Chaining. A series of correct responses is necessary from the pupil in an ongoing lesson or unit of study. Thus in a dramatic activity, the pupil correctly pantomimes sequential content in the drama. This involves a series or ordered set of psychomotor responses that are viewed as being appropriate.

4. Verbal association learning. The pupil in a creative dramatics presentation uses words appropriately in a sequence or order to convey what is in the story being dramatized.

5. Multiple discrimination. The pupil is able, during and/or after lesson presentation to analyze and separate into component parts. For example, the pupil on his/her optimal developmental level is able to separate contextual from non-contextual words when reading content or subject matter.

6. Concept learning. The pupil is able to learn concepts such as nouns, verbs, adjectives, and adverbs.

7. Rule learning. Rules are generalizations. If pupils are to learn the following generalization: Verbs are words that indicate present or past tense as well as indicate an action taking place or a state of being is in evidence.

8. Problem solving. This is the highest level of Gagne's hierarchy of objectives in task analysis. Problem solving is important in school and in society. Individuals and groups face problems which need

identification and solutions. Much information is necessary in most cases to be able to solve problems. There are problems that are easier to solve as well as those which take a long time or may never be solved.

There are numerous advantages in using a task analysis psychology in preparing an instructional sequence. For example, a pupil that cannot solve a problem such a writing a "thank you" note for favors received may lack prerequisites in the task analysis. The teacher than needs to evaluate if the pupil lacks rules (step seven), meaning he/she does not possess the content needed for writing the "thank you" note. There are definite parts that should go into the writing of the note. Should the pupil lack knowledge of the rules, he/she may need to learn vital concepts (step six) in Gagne's task analysis plan of teaching. This may mean the pupil needs to be taught these important concepts for a "thank you" note. A quality plan of task analysis for teaching may truly assist the teacher to teach pupils sequentially and successfully vital subject matter. As the reader can see, there is much time and planing going into a lesson plan or unit of study which includes task analysis. The plan of task analysis stresses lower cognitive objectives such as signal learning (Classical conditioning) and stimulus-response psychology in operant conditioning (rewards provided for pupils who respond correctly in achieving precise objectives).

Dr. Gagne' has worked out a plan here in educational psychology in having pupils work from lower to higher cognitive level objectives. The plan helps teachers think of sequence when preparing what pupils are to learn.

The Structure of Knowledge in the Curriculum

During the 1960s and 1970s, the structure of knowledge psychology of learning was stressed much. Here specialists in their academic areas of specialty worked in the direction of attempting to identify key concepts and generalizations in subject matter knowledge. I

believe attempting to identify key concepts and generalizations in diverse academic disciplines is as important as ever. Pupils should learn what is salient, not the trivia. Academicians certainly do have a very important role in choosing what is vital for pupils to learn.
Thus in reading and the language arts, the structure of knowledge, consisting of main ideas needs to be determined. For example, linguists have identified the following sentence patterns with examples provided:

1. subject -- predicate
   Cats run.
2. subject -- predicate -- direct object
   Ralph saw people.
3. subject -- predicate --indirect object -- direct object
   Mary gave Irma gifts.
4. subject -- linking verb -- predicate adjective
   Flowers are beautiful.
5. subject -- linking verb -- predicate nominative
   Robert was a clown.
6. subject -- linking verb -- predicate adverb
   Mother is away.
7. subject -- predicate -- direct object -- adjective.
   Jim painted the barn red.

These sentence patterns are used again and again in listening, speaking, reading, and writing. They provide structure or a blue print for how the English language works or operates.

Linguists have also identified ways of expanding each of the seven above named sentences. These are

1. using modifiers such as single word adjectives and adverbs as well as adjective and adverb phrases.
2. using appositives
3. using subordinate clauses
4. using independent clauses.

These four approaches in expanding sentence patterns work again and again. Thus, they do present a structure of the English language.

In a nutshell, these have been key concepts and generalizations that have been identified by linguists. There are many other key ideas that linguists have to offer which assists pupils to achieve more optimally in reading and the language arts.

Teachers, I believe, have always tried to determine what is major and what is of lesser importance to teach. When doing this, teachers have been looking for major concepts and generalizations to teach. Key ideas or the structure of knowledge as the teacher sees it is being emphasized. The original intent of the structure of knowledge psychology was to have academicians, generally PhD professors in their respective academic discipline areas from leading universities/colleges, get together and select, after much deliberation, what pupils should learn in terms of concepts and generalizations. These key ideas would then be available to teachers to emphasize with inductive teaching in the classroom. What actually happened at that time was that educational publishing companies hired selected academicians to have these professors write materials of instruction which stressed structural ideas. These commercial productions for teacher use have almost become extinct. A graduate student of mine a few years ago asked me if I had the High School Geography Project materials which she taught from in the 1970s. The High School Geography Project contained, among other things, structural ideas developed by PhD geographers from several leading universities, colleges. I mentioned to this graduate student that I would not know where to secure these materials. There are innovative materials that come and go. At that time I asked colleagues if they knew where the High School Geography Project materials could be located. No on seemed to know and this was fifteen years after these materials came out as publications.

I would suggest that structural ideas be sought after continuously by academicians , teachers, and administrators. It is very important to

choose the best subject matter possible to teach pupils. The subject matter must be important, not trivia. There is no reason that pupils could not learn some of the content inductively. however, I recommend both inductive and deductive procedures. Sometimes in our teaching pupils can learn much and in a short time with explanations and direct teaching. at other times, it is good to have pupils discover and find out on their own.

For example in using context clues with an unknown word in reading, it is good to have pupils hypothesize what the unknown word is. These might well be good educated guesses. At other times, the teacher may wish to pronounce the unknown word to pupils due to their lacking consistency between symbol and sound. The teacher should still give learners time to determine the identity of these words. Brief explanations (deductive methods) my be used by the teacher as to why there is a lack of phoneme/grapheme correspondence.

In situations in life, we learn through deductive and inductive approaches. the following are every day examples of deductive learning :

1. listening to news broadcasts and weather forecasts .
2. obtaining information on how to repair an item.
3. following directions for making something such as baking a cake.
4. looking at a new car manual to ascertain when services needed to be provided such as tire rotation or the changing and filtering of oil.

Inductive thinking in life occurs when situations such as the following are in evidence:

1. finding out what is not functioning well with one's car.
2. discovering how to attach a doorbell to the house.
3. reading about and determining how to implement a school of thought pertaining to disciplining children in the school setting.
4. determining how to make a picnic table that is sturdy and beautiful.

I recommend that teachers and supervisors use much of what structuralists have to emphasize and that is to reexamine subject matter to determine its relevancy and importance. Structural approaches in curriculum development have always stressed evaluating current subject matter thoroughly to see if it is vital for pupils to achieve. Trivial skills and content need to be culled.

Jean Piaget and Readiness for Learning

Piaget studied middle class children for over forty years in Geneva, Switzerland. He came up with valuable conclusions from his research findings. biological maturation was a key concept in findings pertaining to child growth and development. The stages that a child goes through from birth to eleven years and beyond covered the following approximate stages:

1. psychomotor intelligence. This stage incorporated birth to two years of age whereby the child learned through the use of the muscles and the readiness phase. Thus, a youngster may learn to hold a ball, touch objects, taste. smell, and hear sounds in the environment. Object permanence is a very important learning to the psychomotor development pupil.

2. preoperational intelligence. This stage of development occurs from ages two to seven. Here, the child perceives one variable only or largely, such as seeing the height of a container or its width. There are many implications for teachers in the child of preoperational intelligence and that is not to present too many variables at one time. With Piaget's research, I have doubts pertaining to how this harmonizes with the many abstract symbols that are in evidence when pupils work in a strong program of scope and sequence phonics instruction. There are many variables emphasized with abstract symbols in the phonics curriculum. Thus, the teacher needs to be concerned about the number of variables stressed in a phonics lesson or unit of study for early primary grade

pupils.

3. stage of concrete operations. Here, the pupil, as previously, needs adequate concrete materials when the abstract is emphasized in teaching and learning. It is important then to stress the abstract subject matter directly related to concrete situations. Perhaps, this should be emphasized throughout the kindergarten through grade five or six age levels. Meaning accrues when pupils can experience the concrete (objects and items) along with the symbolic or abstract words. If pupils are listening to subject matter, speaking about experiences, reading about reality, and writing about what has been encountered in the real world, the concrete situation is inherent. the teacher as well as pupils may bring into the classroom numerous items and objects pertaining to what has been studied.

When using the above example pertaining to the stage of concrete operations, I have to think of the experience chart. Here, the pupils experience the concrete world, such as objects on an interest center. In sequence these pupils present ideas for an experience chart. This encourages speaking activities that refer directly to the items and objects on the interest center. Writing is in the offing for pupils. The experience chart, in and of itself, may consist of the teacher writing the ideas presented by pupils. Learners may then see talk written down. Finally, pupils together with the teacher read the abstract words on the chart.

The experience chart then follows the thinking o pupils seeing and experiencing objects and having their related comments recorded. In sequence, oral reading follows.

4. formal or abstract thought lasts from eleven years and up pertaining to the age of the child. Here, pupils may now read the abstract without referring to the concrete materials.

According to may observations, Piaget and his research have made the following contributions;

1. The teacher must study the maturation levels of pupils in order to know what and how to teach these learners.

2. there can be much wasting of time in teaching what the maturational level of the child is not ready for..

3. hastening the readiness of a pupil for learning... does not work.The maturational level of the child will indicate what can or cannot be taught.

4. There needs to be an adequate amount of concrete material available for teaching through the age of eleven, approximately.

5. securing attention for learning is salient since learners do not achieve unless they mentally operate upon the content being presented (Ediger, 1997).

According to Piaget and Imhelder (1969), there are definite factors that impinge upon pupils as they progress in intellectual development. These are biological maturation; interaction with experiences in the environment; social activities; and homeostasis, a balance between the self and experiences in the physical environment.

Biological maturation stresses pupils going through the stages of sensorimotor, preoperational, concrete operations, and formal thought. However, there are factors that influence these stages of biological maturation. One factor is pupils interacting with the natural environment. The richness of experiences here has much to do has much to do with learners developing biologically.

Learning Styles of Pupils

There are educators who are strongly emphasizing evaluating the learning styles of pupils to notice factors dealing with the psychology of learning. The Psychology of learning emphasizes stressing that which assists pupils to achieve more optimally. Bernice Mc Carthy (1996) stresses the 4 MAT approach in providing for learners in the classroom. She identifies four types of learning styles among pupils.

1. the highly creative pupil with a feeling and reflective style of learning. These pupils ask many questions in ongoing lessons and like brainstorming methods of instruction.

2. the analytic pupil who is well organized in classifying and

analyzing details.

3. problem solvers in thinking who are doers and like concrete situations, not reading activities, basically.

4. Learners who like to work cooperatively as well as independently on openended tasks in which inductive learning is stressed using kinesthetic/audio/visual materials. First hand experiences are important to these pupils in teaching and learning. Learners in this category do not like formal, rigid schedules.

In the above named four types of learning for pupils, a natural cycle sequentially of feeling, reflecting, thinking, and acting or doing occurs.

In commenting about each of the above names styles of learning, the following are examples also harmonizing with the numerals indicated:

1. pupils might brainstorm characteristics pertaining to the major character of the story. Here, pupils are generating as many ideas as possible, without repeating previous responses. To generate new ideas in brainstorming requires the unique and the original.

2. analytical pupils might contrast characterization of the major character of the previous story with that of the present one being studied.

3. pupils who are problem solvers like to identify stimulating questions or problem areas. The Why and How kinds of questions are very important. They require securing information in answer to the question/problem. An hypothesis needs to be developed. The hypothesis is a tentative answer to the problem. Deliberation and thought are needed here in decision making when trying out the hypothesis. Generally, the tentative hypothesis is tried out in a lifelike situation. Revisions may need to be forthcoming if the evidence is warranted after the trying out of the hypothesis. Reading and the language arts together with academic/practical knowledge may assist in providing acceptable solutions.

4. there are selected pupils who like to work in groups or

committees, not by the self. Others prefer to work by the self in an ongoing learning activity. Both sets of pupils like lifelike experiences which are openended, not assigned activities. These pupils may find interesting tasks within the assigned. Hands on approaches in learning should be in the offing for these pupils. The tasks may not stress problem solving, but emphasize the useful and the utilitarian through learning by discovery. Finding out on their own is desired by these learners.

Conclusion

The psychology of learning provides the reading/language arts teacher with a basis for making sound decisions in lesson and unit construction. The psychology of learning attempts to guide teachers on how to aid pupils to attain more optimally. Thus, behaviorists advocate the writing of precise objectives prior to instruction.The teacher may announce to learners what is to be achieved when teaching occurs in sequence. Pupils then may tend to the presentation with certainty as to what is to be learned. After instruction, pupils are measured in achievement to ascertain if the objectives have been attained. There is a certain structure involved in developing lessons and units of study. The emphasis is upon selecting with much care the objectives of instruction. Adequate time needs to be spent on choosing objectives for pupils to attain.

Advocates of task analysis stress a carefully developed sequence of learning opportunities going from lower to higher levels of cognition. If a pupil does not achieve an objective, he/she can always be guided to be taught at a preceding level of achievement. The preceding level provides readiness for the new objective to be achieved by pupils.

The structure of knowledge approach will always be important in that teachers and supervisors need to analyze and study presently what is taught with hopes of obtaining something better. The something better should emphasize an improved structure of reading and the language arts.

The 4 MAT approach stresses learning styles of pupils. The psychology of learning herein emphasizes different styles of pupils in learning from the creative pupil to those stressing being analytic, problems solvers, and/or desiring hands on approach in learning.

I believe we can use the best of all four strategies in teaching such as having

1. clearly stated objectives as advocated by behaviorists.
2. quality in sequence in pupil learning as advocated by tasks analysis psychology.
3. good problem solvers in school and in society among pupils, as emphasized by problem solving advocates.
4. styles of learning which harmonize with a pupil's intrinsic • makeup in terms of how the individual learns.

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